FIG. 1

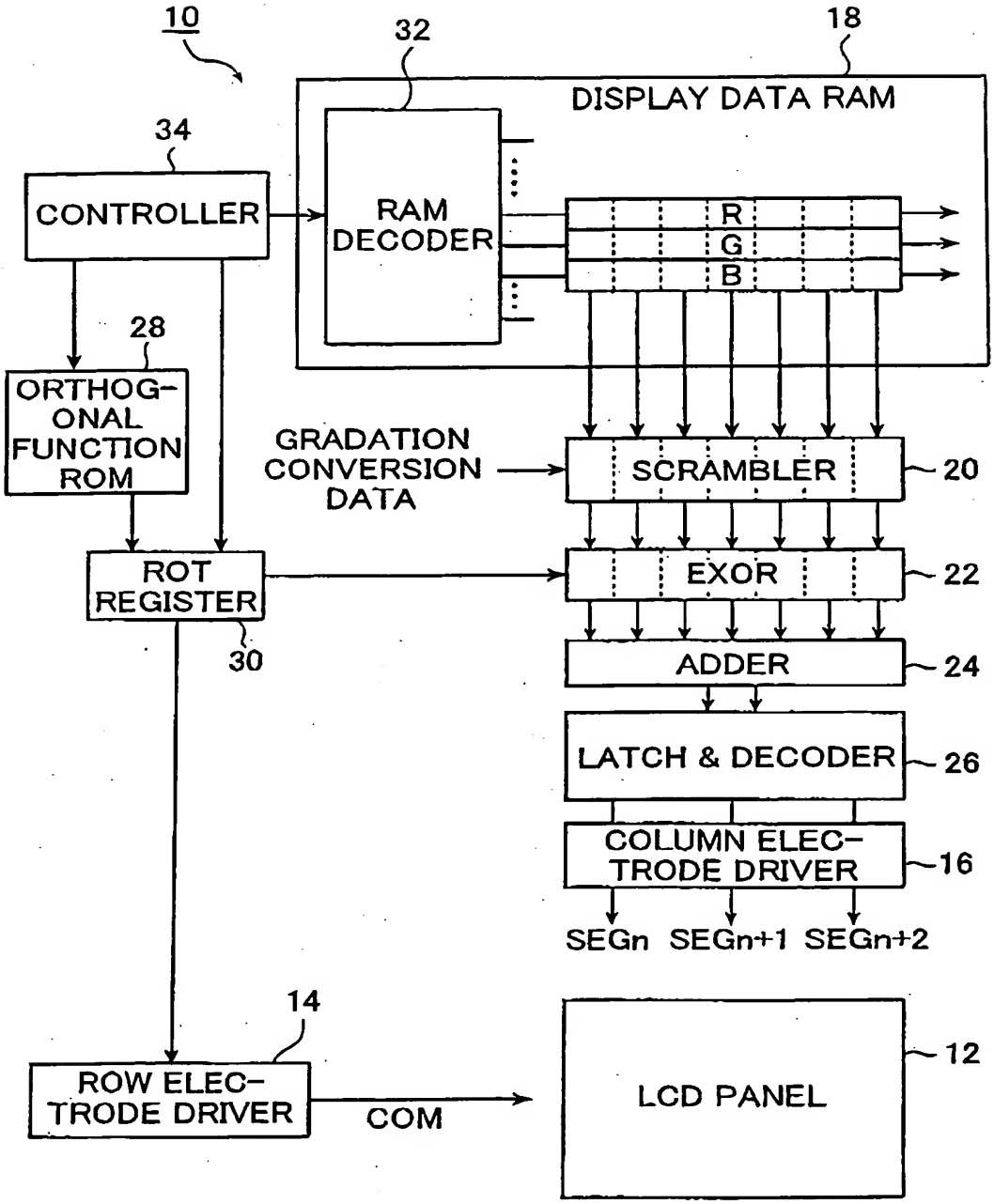
10
32
18
DISPLAY DATA RAM
34
CONTROLLER
RAM DECODER
R
G
B
28
ORTHOG-ONAL FUNCTION ROM
GRADATION CONVERSION DATA
SCRAMBLER
20
ROT REGISTER
EXOR
22
30
ADDER
24
LATCH & DECODER
26
COLUMN ELEC-TRODE DRIVER
16
SEGn SEGn+1 SEGn+2
14
ROW ELEC-TRODE DRIVER
COM
LCD PANEL
12

FIG.2A

	ORTHOGONAL FUNCTION A			
	AR1	AR2	AR3	AR4
AC1	1	1	1	-1
AC2	1	-1	-1	-1
AC3	1	-1	1	1
AC4	-1	-1	1	-1

FIG.2B

	ORTHOGONAL FUNCTION B			
	BR1	BR2	BR3	BR4
BC1	1	-1	-1	-1
BC2	1	-1	1	1
BC3	-1	-1	1	-1
BC4	1	1	1	-1

FIG.2C

		DISPLAY CYCLE																							
		FIRST FIELD						SECOND FIELD						THIRD FIELD						FOURTH FIELD					
		ROW SELECTION TIME PERIOD 1		ROW SELECTION TIME PERIOD 2		ROW SELECTION TIME PERIOD 3		ROW SELECTION TIME PERIOD 1		ROW SELECTION TIME PERIOD 2		ROW SELECTION TIME PERIOD 3		ROW SELECTION TIME PERIOD 1		ROW SELECTION TIME PERIOD 2		ROW SELECTION TIME PERIOD 3		ROW SELECTION TIME PERIOD 1		ROW SELECTION TIME PERIOD 2		ROW SELECTION TIME PERIOD 3	
		DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2
BLK1	ROW1	AR1	BR2	0	0	0	0	AR3	BR4	0	0	0	0	BR1	AR2	0	0	0	0	BR3	AR4	0	0	0	0
	ROW2			0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0
	ROW3			0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0
	ROW4			0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0
BLK2	ROW5	0	0	AR3	BR4	0	0	0	0	AR1	BR2	0	0	0	0	BR3	AR4	0	0	0	0	BR1	AR2	0	0
	ROW6	0	0			0	0	0	0			0	0	0	0			0	0	0	0			0	0
	ROW7	0	0			0	0	0	0			0	0	0	0			0	0	0	0			0	0
	ROW8	0	0			0	0	0	0			0	0	0	0			0	0	0	0			0	0
BLK3	ROW9	0	0	0	0	AR1	BR2	0	0	0	0	AR3	BR4	0	0	0	0	BR1	AR2	0	0	0	0	BR3	AR4
	ROW10	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
	ROW11	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		
	ROW12	0	0	0	0			0	0	0	0			0	0	0	0			0	0	0	0		

FIG.3

		DISPLAY CYCLE																							
		FIRST FIELD						SECOND FIELD						THIRD FIELD						FOURTH FIELD					
		ROW SELECTION TIME PERIOD 1		ROW SELECTION TIME PERIOD 2		ROW SELECTION TIME PERIOD 3		ROW SELECTION TIME PERIOD 1		ROW SELECTION TIME PERIOD 2		ROW SELECTION TIME PERIOD 3		ROW SELECTION TIME PERIOD 1		ROW SELECTION TIME PERIOD 2		ROW SELECTION TIME PERIOD 3		ROW SELECTION TIME PERIOD 1		ROW SELECTION TIME PERIOD 2		ROW SELECTION TIME PERIOD 3	
		DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2
B	ROW1	1	-1	0	0	0	0	1	-1	0	0	0	0	1	1	0	0	0	0	-1	-1	0	0	0	0
L	ROW2	1	-1	0	0	0	0	-1	1	0	0	0	0	1	-1	0	0	0	0	1	-1	0	0	0	0
K	ROW3	1	-1	0	0	0	0	1	-1	0	0	0	0	-1	-1	0	0	0	0	1	1	0	0	0	0
1	ROW4	-1	1	0	0	0	0	1	-1	0	0	0	0	1	-1	0	0	0	0	1	-1	0	0	0	0
B	ROW5	0	0	1	-1	0	0	0	0	1	-1	0	0	0	0	-1	-1	0	0	0	0	1	1	0	0
L	ROW6	0	0	-1	1	0	0	0	0	1	-1	0	0	0	0	1	-1	0	0	0	0	1	-1	0	0
K	ROW7	0	0	1	-1	0	0	0	0	1	-1	0	0	0	0	1	1	0	0	0	0	-1	-1	0	0
2	ROW8	0	0	1	-1	0	0	0	0	-1	1	0	0	0	0	1	-1	0	0	0	0	1	-1	0	0
B	ROW9	0	0	0	0	1	-1	0	0	0	0	1	-1	0	0	0	0	1	1	0	0	0	0	-1	-1
L	ROW10	0	0	0	0	1	-1	0	0	0	0	-1	1	0	0	0	0	1	-1	0	0	0	0	1	-1
K	ROW11	0	0	0	0	1	-1	0	0	0	0	1	-1	0	0	0	0	-1	-1	0	0	0	0	1	1
3	ROW12	0	0	0	0	-1	1	0	0	0	0	1	-1	0	0	0	0	1	-1	0	0	0	0	1	-1

FIG.4A

ROW ELECTRODE SELECTION PATTERN (ORTHOGONAL FUNCTION A)

	AR1	AR2	AR3	AR4
AC1	1	1	1	-1
AC2	1	-1	-1	-1
AC3	1	-1	1	1
AC4	-1	-1	1	-1

FIG.4B

DISPLAY PATTERN

R1	R2	R3	R4
1	1	1	1
1	1	1	-1
1	1	-1	1
1	1	-1	-1
1	-1	1	1
1	-1	1	-1
1	-1	-1	1
1	-1	-1	-1
-1	1	1	1
-1	1	1	-1
-1	1	-1	1
-1	1	-1	-1
-1	-1	1	1
-1	-1	1	-1
-1	-1	-1	1
-1	-1	-1	-1

FIG.4C

RESULT OF MLA OPERATION

2	-2	2	-2
4	0	0	0
0	0	0	-4
2	2	-2	-2
0	0	4	0
2	2	2	2
-2	2	2	-2
0	4	0	0
0	-4	0	0
2	-2	-2	2
-2	-2	-2	-2
0	0	-4	0
-2	-2	2	2
0	0	0	4
-4	0	0	0
-2	2	-2	2

FIG.4D

COLUMN ELECTRODE VOLTAGE PATTERN

-1	1	-1	1
-2	0	0	0
0	0	0	2
-1	-1	1	1
0	0	-2	0
-1	-1	-1	-1
1	-1	-1	1
0	-2	0	0
0	2	0	0
-1	1	1	-1
1	1	1	1
0	0	2	0
1	1	-1	-1
0	0	0	-2
2	0	0	0
1	-1	1	-1

FIG.4E

VALUE CORRESPONDING TO THE EFFECTIVE VOLTAGE

R1	R2	R3	R4
2	2	2	2
2	2	2	-2
2	2	-2	2
2	2	-2	-2
2	-2	2	2
2	-2	2	-2
2	-2	-2	2
2	-2	-2	-2
-2	2	2	2
-2	2	2	-2
-2	2	-2	2
-2	2	-2	-2
-2	-2	2	2
-2	-2	2	-2
-2	-2	-2	2
-2	-2	-2	-2

FIG.5A

ROW ELECTRODE SELECTION PATTERN (ORTHOGONAL FUNCTION B)

	BR1	BR2	BR3	BR4
BC1	1	-1	-1	-1
BC2	1	-1	1	1
BC3	-1	-1	1	-1
BC4	1	1	1	-1

FIG.5B

DISPLAY PATTERN

R1	R2	R3	R4
1	1	1	1
1	1	1	-1
1	1	-1	1
1	1	-1	-1
1	-1	1	1
1	-1	1	-1
1	-1	-1	1
1	-1	-1	-1
-1	1	1	1
-1	1	1	-1
-1	1	-1	1
-1	1	-1	-1
-1	-1	1	1
-1	-1	1	-1
-1	-1	-1	1
-1	-1	-1	-1

FIG.5C

RESULT OF MLA OPERATION

2	-2	2	-2
0	-4	0	0
4	0	0	0
2	-2	-2	2
0	0	0	-4
-2	-2	-2	-2
2	2	-2	-2
0	0	-4	0
0	0	4	0
-2	-2	2	2
2	2	2	2
0	0	0	4
-2	2	2	-2
-4	0	0	0
0	4	0	0
-2	2	-2	2

FIG.5D

COLUMN ELECTRODE VOLTAGE PATTERN

-1	1	-1	1
0	2	0	0
-2	0	0	0
-1	1	1	-1
0	0	0	2
1	1	1	1
-1	-1	1	1
0	0	2	0
0	0	-2	0
1	1	-1	-1
-1	-1	-1	-1
0	0	0	-2
1	-1	-1	1
2	0	0	0
0	-2	0	0
1	-1	1	-1

FIG.5E

VALUE CORRESPONDING TO THE EFFECTIVE VOLTAGE

R1	R2	R3	R4
2	2	2	2
2	2	2	-2
2	2	-2	2
2	2	-2	-2
2	-2	2	2
2	-2	2	-2
2	-2	-2	2
2	-2	-2	-2
-2	2	2	2
-2	2	2	-2
-2	2	-2	2
-2	2	-2	-2
-2	-2	2	2
-2	-2	2	-2
-2	-2	-2	2
-2	-2	-2	-2

FIG.6A

ORTHOGONAL FUNCTION A

AR1	AR2	AR3	AR4	AR5	AR6	AR7	AR8
-1	-1	-1	-1	-1	1	-1	-1
-1	-1	1	-1	1	-1	-1	1
-1	1	-1	-1	-1	-1	1	1
1	-1	1	-1	-1	-1	1	-1
1	-1	-1	1	-1	-1	-1	1
1	1	-1	-1	1	-1	-1	-1
-1	1	1	1	-1	-1	-1	-1

FIG.6B

ORTHOGONAL FUNCTION B

BR1	BR2	BR3	BR4	BR5	BR6	BR7	BR8
-1	1	1	1	-1	-1	-1	-1
-1	-1	-1	-1	-1	1	-1	-1
-1	-1	1	-1	1	-1	-1	1
-1	1	-1	-1	-1	-1	1	1
1	-1	1	-1	-1	-1	1	-1
1	-1	-1	1	-1	-1	-1	1
1	1	-1	-1	1	-1	-1	-1

FIG.6C

ORTHOGONAL FUNCTION C

CR1	CR2	CR3	CR4	CR5	CR6	CR7	CR8
1	1	-1	-1	1	-1	-1	-1
-1	1	1	1	-1	-1	-1	-1
-1	-1	-1	-1	-1	1	-1	-1
-1	-1	1	-1	1	-1	-1	1
-1	1	-1	-1	-1	-1	1	1
1	-1	1	-1	-1	-1	1	-1
1	-1	-1	1	-1	-1	-1	1

FIG.6D

ORTHOGONAL FUNCTION D

DR1	DR2	DR3	DR4	DR5	DR6	DR7	DR8
1	-1	-1	1	-1	-1	-1	1
1	1	-1	-1	1	-1	-1	-1
-1	1	1	1	-1	-1	-1	-1
-1	-1	-1	-1	-1	1	-1	-1
-1	-1	1	-1	1	-1	-1	1
-1	1	-1	-1	-1	-1	1	1
1	-1	1	-1	-1	-1	1	-1

FIG.7

	DISPLAY CYCLE																															
	FIRST FIELD								SECOND FIELD								THIRD FIELD								FOURTH FIELD							
	ROW SELECTION TIME PERIOD 1				ROW SELECTION TIME PERIOD 2				ROW SELECTION TIME PERIOD 1				ROW SELECTION TIME PERIOD 2				ROW SELECTION TIME PERIOD 1				ROW SELECTION TIME PERIOD 2				ROW SELECTION TIME PERIOD 1				ROW SELECTION TIME PERIOD 2			
	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4
ROW1	A R1	B R2	C R3	D R4	0	0	0	0	A R2	B R3	C R4	D R5	0	0	0	0	A R3	B R4	C R5	D R6	0	0	0	0	A R4	B R5	C R6	D R7	0	0	0	0
ROW2					0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0
ROW3					0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0
ROW4					0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0
ROW5					0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0
ROW6					0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0
ROW7					0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0
ROW8	0	0	0	0	A R2	B R3	C R4	D R5	0	0	0	0	A R3	B R4	C R5	D R6	0	0	0	0	A R4	B R5	C R6	D R7	0	0	0	0	A R5	B R6	C R7	D R8
ROW9	0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0				
ROW10	0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0				
ROW11	0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0				
ROW12	0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0				
ROW13	0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0				
ROW14	0	0	0	0					0	0	0	0					0	0	0	0					0	0	0	0				

FIG.8

DISPLAY CYCLE															
FIFTH FIELD								SIXTH FIELD							
ROW SELECTION TIME PERIOD 1				ROW SELECTION TIME PERIOD 2				ROW SELECTION TIME PERIOD 1				ROW SELECTION TIME PERIOD 2			
DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4
AR5	BR6	CR7	DR8	0	0	0	0	AR6	BR7	CR8	DR1	0	0	0	0
				0	0	0	0					0	0	0	0
				0	0	0	0					0	0	0	0
				0	0	0	0					0	0	0	0
				0	0	0	0					0	0	0	0
				0	0	0	0					0	0	0	0
				0	0	0	0					0	0	0	0
0	0	0	0	AR6	BR7	CR8	DR1	0	0	0	0	AR7	BR8	CR1	DR2
0	0	0	0					0	0	0	0				
0	0	0	0					0	0	0	0				
0	0	0	0					0	0	0	0				
0	0	0	0					0	0	0	0				
0	0	0	0					0	0	0	0				
0	0	0	0					0	0	0	0				

DISPLAY CYCLE															
SEVENTH FIELD								EIGHTH FIELD							
ROW SELECTION TIME PERIOD 1				ROW SELECTION TIME PERIOD 2				ROW SELECTION TIME PERIOD 1				ROW SELECTION TIME PERIOD 2			
DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4	DIVIDED SELECTION TIME PERIOD 1	DIVIDED SELECTION TIME PERIOD 2	DIVIDED SELECTION TIME PERIOD 3	DIVIDED SELECTION TIME PERIOD 4
AR7	BR8	CR1	DR2	0	0	0	0	AR8	BR1	CR2	DR3	0	0	0	0
				0	0	0	0					0	0	0	0
				0	0	0	0					0	0	0	0
				0	0	0	0					0	0	0	0
				0	0	0	0					0	0	0	0
				0	0	0	0					0	0	0	0
				0	0	0	0					0	0	0	0
0	0	0	0	AR8	BR1	CR2	DR3	0	0	0	0	AR1	BR2	CR3	DR4
0	0	0	0					0	0	0	0				
0	0	0	0					0	0	0	0				
0	0	0	0					0	0	0	0				
0	0	0	0					0	0	0	0				
0	0	0	0					0	0	0	0				
0	0	0	0					0	0	0	0				

FIG. 9A

ROW ELECTRODE SELECTION PATTERN (ORTHOGONAL FUNCTION A)

AR1	AR2	AR3	AR4	AR5	AR6	AR7	AR8
-1	-1	-1	-1	-1	1	-1	-1
-1	-1	1	-1	1	-1	-1	1
-1	1	-1	-1	-1	-1	1	1
1	-1	1	-1	-1	-1	1	-1
1	-1	-1	1	-1	-1	-1	1
1	1	-1	-1	1	-1	-1	-1
-1	1	1	1	-1	-1	-1	-1

FIG. 9B

DISPLAY PATTERN

R1	R2	R3	R4	R5	R6	R7
1	1	1	1	1	1	1
1	1	1	1	1	1	-1
1	1	1	1	1	-1	1
1	1	1	1	1	-1	-1
1	1	1	1	-1	1	1
1	1	1	1	-1	1	-1
1	1	1	1	-1	-1	1
1	1	1	1	-1	-1	-1
1	1	1	-1	1	1	1
1	1	1	-1	1	1	-1
1	1	1	-1	1	-1	1
1	1	1	-1	1	-1	-1
1	1	1	-1	-1	1	1
1	1	1	-1	-1	1	-1
1	1	1	-1	-1	-1	1
1	1	1	-1	-1	-1	-1
1	1	-1	1	1	1	1
1	1	-1	1	1	1	-1
1	1	-1	1	1	-1	1
1	1	-1	1	1	-1	-1
1	1	-1	1	-1	1	1
			⋮			
-1	-1	1	-1	1	-1	-1
-1	-1	1	-1	-1	1	1
-1	-1	1	-1	-1	1	-1
-1	-1	1	-1	-1	-1	1
-1	-1	1	-1	-1	-1	-1
-1	-1	-1	1	1	1	1
-1	-1	-1	1	1	1	-1
-1	-1	-1	1	1	-1	1
-1	-1	-1	1	1	-1	-1
-1	-1	-1	1	-1	1	1
-1	-1	-1	1	-1	1	-1
-1	-1	-1	1	-1	-1	1
-1	-1	-1	1	-1	-1	-1
-1	-1	-1	-1	1	1	1
-1	-1	-1	-1	1	1	-1
-1	-1	-1	-1	1	-1	1
-1	-1	-1	-1	1	-1	-1
-1	-1	-1	-1	-1	1	1
-1	-1	-1	-1	-1	1	-1
-1	-1	-1	-1	-1	-1	1
-1	-1	-1	-1	-1	-1	-1

FIG. 9C

RESULT OF MLA OPERATION

-1	-1	-1	-3	-3	-5	-3	-1
1	-3	-3	-5	-1	-3	-1	1
-3	-3	1	-1	-5	-3	-1	1
-1	-5	-1	-3	-3	-1	1	3
-3	1	1	-5	-1	-3	-1	-3
-1	-1	-1	-7	1	-1	1	-1
-5	-1	3	-3	-3	-1	1	-1
-3	-3	1	-5	-1	1	3	1
-3	1	-3	-1	-1	-3	-5	1
-1	-1	-5	-3	1	-1	-3	3
-5	-1	-1	1	-3	-1	-3	3
-3	-3	-3	-1	-1	1	-1	5
-5	3	-1	-3	1	-1	-3	-1
-3	1	-3	-5	3	1	-1	1
-7	1	1	-1	-1	1	-1	1
-5	-1	-1	-3	1	3	1	3
1	-3	1	-1	-1	-3	-5	-3
3	-5	-1	-3	1	-1	-3	-1
-1	-5	3	1	-3	-1	-3	-1
1	-7	1	-1	-1	1	-1	1
-1	-1	3	-3	1	-1	-3	-5
			⋮				
1	1	-3	3	-1	1	3	5
-1	7	-1	1	1	-1	1	-1
1	5	-3	-1	3	1	3	1
-3	5	1	3	-1	1	3	1
-1	3	-1	1	1	3	5	3
5	1	1	3	-1	-3	-1	-3
7	-1	-1	1	1	-1	1	-1
3	-1	3	5	-3	-1	1	-1
5	-3	1	3	-1	1	3	1
3	3	3	1	1	-1	1	-5
5	1	1	-1	3	1	3	-3
1	1	5	3	-1	1	3	-3
3	-1	3	1	1	3	5	-1
3	3	-1	5	1	-1	-3	-1
5	1	-3	3	3	1	-1	1
1	1	1	7	-1	1	-1	1
3	-1	-1	5	1	3	1	3
1	5	1	3	3	1	-1	-3
3	3	-1	1	5	3	1	-1
-1	3	3	5	1	3	1	-1
1	1	1	3	3	5	3	1

FIG. 9D

COLUMN ELECTRODE VOLTAGE PATTERN

1	1	1	1	1	3	1	1
-1	1	1	3	1	1	1	-1
1	1	-1	1	3	1	1	-1
1	3	1	1	1	1	-1	-1
1	-1	-1	3	1	1	1	1
1	1	1	3	-1	1	-1	1
3	1	-1	1	1	1	-1	1
1	1	-1	3	1	-1	-1	-1
1	-1	1	1	1	1	3	-1
1	1	3	1	-1	1	1	-1
3	1	1	-1	1	1	1	-1
1	1	1	1	1	-1	1	-3
3	-1	1	1	-1	1	1	1
1	-1	1	3	-1	-1	1	-1
3	-1	-1	1	1	-1	1	-1
3	1	1	1	-1	-1	-1	-1
-1	1	-1	1	1	1	3	1
-1	3	1	1	-1	1	1	1
1	3	-1	-1	1	1	1	1
-1	3	-1	1	1	-1	1	-1
1	1	-1	1	-1	1	1	3
			⋮				
-1	-1	1	-1	1	-1	-1	-3
1	-3	1	-1	-1	1	-1	1
-1	-3	1	1	-1	-1	-1	-1
1	-3	-1	-1	1	-1	-1	-1
1	-1	1	-1	-1	-1	-3	-1
-3	-1	-1	-1	1	1	1	1
-3	1	1	-1	-1	1	-1	1
-1	1	-1	-3	1	1	-1	1
-3	1	-1	-1	1	-1	-1	-1
-1	-1	-1	-1	-1	1	-1	3
-3	-1	-1	1	-1	-1	-1	1
-1	-1	-3	-1	1	-1	-1	1
-1	1	-1	-1	-1	-1	-3	1
-1	-1	1	-3	-1	1	1	1
-3	-1	1	-1	-1	-1	1	-1
-1	-1	-1	-3	1	-1	1	-1
-1	1	1	-3	-1	-1	-1	-1
-1	-3	-1	-1	-1	1	1	1
-1	-1	1	-1	-3	-1	-1	1
1	-1	-1	-3	-1	-1	-1	1
-1	-1	-1	-1	-1	-3	-1	-1

FIG. 9E

VALUE CORRESPONDING TO THE EFFECTIVE VOLTAGE

R1	R2	R3	R4	R5	R6	R7
4	4	4	4	4	4	4
4	4	4	4	4	4	-4
4	4	4	4	4	-4	4
4	4	4	4	4	-4	-4
4	4	4	4	-4	4	4
4	4	4	4	-4	4	-4
4	4	4	4	-4	-4	4
4	4	4	4	-4	-4	-4
4	4	4	-4	4	4	4
4	4	4	-4	4	4	-4
4	4	4	-4	4	-4	4
4	4	4	-4	4	-4	-4
4	4	4	-4	-4	4	4
4	4	4	-4	-4	4	-4
4	4	4	-4	-4	-4	4
4	4	4	-4	-4	-4	-4
4	4	-4	4	4	4	4
4	4	-4	4	4	4	-4
4	4	-4	4	4	-4	4
4	4	-4	4	4	-4	-4
4	4	-4	4	-4	4	4
			⋮			
-4	-4	4	-4	4	-4	-4
-4	-4	4	-4	-4	4	4
-4	-4	4	-4	-4	4	-4
-4	-4	4	-4	-4	-4	4
-4	-4	4	-4	-4	-4	-4
-4	-4	-4	4	4	4	4
-4	-4	-4	4	4	4	-4
-4	-4	-4	4	4	-4	4
-4	-4	-4	4	4	-4	-4
-4	-4	-4	4	-4	4	4
-4	-4	-4	4	-4	4	-4
-4	-4	-4	4	-4	-4	4
-4	-4	-4	4	-4	-4	-4
-4	-4	-4	-4	4	4	4
-4	-4	-4	-4	4	4	-4
-4	-4	-4	-4	4	-4	4
-4	-4	-4	-4	4	-4	-4
-4	-4	-4	-4	-4	4	4
-4	-4	-4	-4	-4	4	-4
-4	-4	-4	-4	-4	-4	4
-4	-4	-4	-4	-4	-4	-4

FIG.10A

ROW ELECTRODE SELECTION PATTERN (ORTHOGONAL FUNCTION B)

BR1	BR2	BR3	BR4	BR5	BR6	BR7	BR8
-1	1	1	1	-1	-1	-1	-1
-1	-1	-1	-1	-1	1	-1	-1
-1	-1	1	-1	1	-1	-1	1
-1	1	-1	-1	-1	-1	1	1
1	-1	1	-1	-1	-1	1	-1
1	-1	-1	1	-1	-1	-1	1
1	1	-1	-1	1	-1	-1	-1

FIG.10B FIG.10C FIG.10D FIG.10E

DISPLAY PATTERN

R1	R2	R3	R4	R5	R6	R7
1	1	1	1	1	1	1
1	1	1	1	1	1	-1
1	1	1	1	1	-1	1
1	1	1	1	1	-1	-1
1	1	1	1	-1	1	1
1	1	1	1	-1	1	-1
1	1	1	1	-1	-1	1
1	1	1	1	-1	-1	-1
1	1	1	-1	1	1	1
1	1	1	-1	1	1	-1
1	1	1	-1	1	-1	1
1	1	1	-1	1	-1	-1
1	1	1	-1	-1	1	1
1	1	1	-1	-1	1	-1
1	1	1	-1	-1	-1	1
1	1	1	-1	-1	-1	-1
1	1	-1	1	1	1	1
1	1	-1	1	1	1	-1
1	1	-1	1	1	-1	1
1	1	-1	1	1	-1	-1
1	1	-1	1	-1	1	1
⋮						
-1	-1	1	-1	1	-1	-1
-1	-1	1	-1	-1	1	1
-1	-1	1	-1	-1	1	-1
-1	-1	1	-1	-1	-1	1
-1	-1	1	-1	-1	-1	-1
-1	-1	-1	1	1	1	1
-1	-1	-1	1	1	1	-1
-1	-1	-1	1	1	-1	1
-1	-1	-1	1	1	-1	-1
-1	-1	-1	1	-1	1	1
-1	-1	-1	1	-1	1	-1
-1	-1	-1	1	-1	-1	1
-1	-1	-1	1	-1	-1	-1
-1	-1	-1	-1	1	1	1
-1	-1	-1	-1	1	1	-1
-1	-1	-1	-1	1	-1	1
-1	-1	-1	-1	1	-1	-1
-1	-1	-1	-1	-1	1	1
-1	-1	-1	-1	-1	1	-1
-1	-1	-1	-1	-1	-1	1
-1	-1	-1	-1	-1	-1	-1

RESULT OF MLA OPERATION

-1	-1	-1	-3	-3	-5	-3	-1
-3	-3	1	-1	-5	-3	-1	1
-3	1	1	-5	-1	-3	-1	-3
-5	-1	3	-3	-3	-1	1	-1
-3	1	-3	-1	-1	-3	-5	1
-5	-1	-1	1	-3	-1	-3	3
-5	3	-1	-3	1	-1	-3	-1
-7	1	1	-1	-1	1	-1	1
1	-3	1	-1	-1	-3	-5	-3
-1	-5	3	1	-3	-1	-3	-1
-1	-1	3	-3	1	-1	-3	-5
-3	-3	5	-1	-1	1	-1	-3
-1	-1	-1	1	1	-1	-7	-1
-3	-3	1	3	-1	1	-5	1
-3	1	1	-1	3	1	-5	-3
-5	-1	3	1	1	3	-3	-1
1	1	-3	-1	-5	-3	-1	-3
-1	-1	-1	1	-7	-1	1	-1
-1	3	-1	-3	-3	-1	1	-5
-3	1	1	-1	-5	1	3	-3
-1	3	-5	1	-3	-1	-3	-1
⋮							
1	-3	5	-1	3	1	3	1
3	-1	-1	1	5	-1	-3	3
1	-3	1	3	3	1	-1	5
1	1	1	-1	7	1	-1	1
-1	-1	3	1	5	3	1	3
5	1	-3	-1	-1	-3	3	1
3	-1	-1	1	-3	-1	5	3
3	3	-1	-3	1	-1	5	-1
1	1	1	-1	-1	1	7	1
3	3	-5	1	1	-1	1	3
1	1	-3	3	-1	1	3	5
1	5	-3	-1	3	1	3	1
-1	3	-1	1	1	3	5	3
7	-1	-1	1	1	-1	1	-1
5	-3	1	3	-1	1	3	1
5	1	1	-1	3	1	3	-3
3	-1	3	1	1	3	5	-1
5	1	-3	3	3	1	-1	1
3	-1	-1	5	1	3	1	3
3	3	-1	1	5	3	1	-1
1	1	1	3	3	5	3	1

COLUMN ELECTRODE VOLTAGE PATTERN

1	1	1	1	1	3	1	1
1	1	-1	1	3	1	1	-1
1	-1	-1	3	1	1	1	1
3	1	-1	1	1	1	-1	1
1	-1	1	1	1	1	3	-1
3	1	1	-1	1	1	1	-1
3	-1	1	1	-1	1	1	1
3	-1	-1	1	1	-1	1	-1
-1	1	-1	1	1	1	3	1
1	3	-1	-1	1	1	1	1
1	1	-1	1	-1	1	1	3
1	1	-3	1	1	-1	1	1
1	1	-1	-1	1	-1	3	-1
1	-1	-1	1	-1	-1	3	1
3	1	-1	-1	-1	-1	1	1
-1	-1	1	1	3	1	1	1
1	1	1	-1	3	1	-1	1
1	-1	1	1	1	1	-1	3
1	-1	-1	1	3	-1	-1	1
1	-1	3	-1	1	1	1	1
⋮							
-1	1	-3	1	-1	-1	-1	-1
-1	1	1	-1	-3	1	1	-1
-1	1	-1	-1	-1	-1	1	-3
-1	-1	-1	1	-3	-1	1	-1
1	1	-1	-1	-3	-1	-1	-1
-3	-1	1	1	1	1	-1	-1
-1	1	1	-1	1	1	-3	-1
-1	-1	1	1	-1	1	-3	1
-1	-1	-1	1	1	-1	-3	-1
-1	-1	3	-1	-1	1	-1	-1
-1	-1	1	-1	1	-1	-1	-3
-1	-3	1	1	-1	-1	-1	-1
1	-1	1	-1	-1	-1	-3	-1
-3	1	1	-1	-1	1	-1	1
-3	1	-1	-1	1	-1	-1	-1
-3	-1	-1	1	-1	-1	-1	1
-1	1	-1	-1	-1	-1	-3	1
-3	-1	1	-1	-1	-1	1	-1
-1	1	1	-3	-1	-1	-1	-1
-1	-1	1	-1	-3	-1	-1	1
-1	-1	-1	-1	-1	-3	-1	-1

VALUE CORRESPONDING TO THE EFFECTIVE VOLTAGE

R1	R2	R3	R4	R5	R6	R7
4	4	4	4	4	4	4
4	4	4	4	4	4	-4
4	4	4	4	4	-4	4
4	4	4	4	4	-4	-4
4	4	4	4	-4	4	4
4	4	4	4	-4	4	-4
4	4	4	4	-4	-4	4
4	4	4	4	-4	-4	-4
4	4	4	-4	4	4	4
4	4	4	-4	4	4	-4
4	4	4	-4	4	-4	4
4	4	4	-4	4	-4	-4
4	4	4	-4	-4	4	4
4	4	4	-4	-4	4	-4
4	4	4	-4	-4	-4	4
4	4	4	-4	-4	-4	-4
4	4	-4	4	4	4	4
4	4	-4	4	4	4	-4
4	4	-4	4	4	-4	4
4	4	-4	4	4	-4	-4
4	4	-4	4	-4	4	4
⋮						
-4	-4	4	-4	4	-4	-4
-4	-4	4	-4	-4	4	4
-4	-4	4	-4	-4	4	-4
-4	-4	4	-4	-4	-4	4
-4	-4	4	-4	-4	-4	-4
-4	-4	-4	4	4	4	4
-4	-4	-4	4	4	4	-4
-4	-4	-4	4	4	-4	4
-4	-4	-4	4	4	-4	-4
-4	-4	-4	4	-4	4	4
-4	-4	-4	4	-4	4	-4
-4	-4	-4	4	-4	-4	4
-4	-4	-4	4	-4	-4	-4
-4	-4	-4	-4	4	4	4
-4	-4	-4	-4	4	4	-4
-4	-4	-4	-4	4	-4	4
-4	-4	-4	-4	4	-4	-4
-4	-4	-4	-4	-4	4	4
-4	-4	-4	-4	-4	4	-4
-4	-4	-4	-4	-4	-4	4
-4	-4	-4	-4	-4	-4	-4

FIG.11A

ROW ELECTRODE SELECTION PATTERN (ORTHOGONAL FUNCTION C)

CR1	CR2	CR3	CR4	CR5	CR6	CR7	CR8
1	1	-1	-1	1	-1	-1	-1
-1	1	1	1	-1	-1	-1	-1
-1	-1	-1	-1	-1	1	-1	-1
-1	-1	1	-1	1	-1	-1	1
-1	1	-1	-1	-1	-1	1	1
1	-1	1	-1	-1	-1	1	-1
1	-1	-1	1	-1	-1	-1	1

FIG.11B FIG.11C FIG.11D FIG.11E

DISPLAY PATTERN R1 R2 R3 R4 R5 R6 R7	RESULT OF MLA OPERATION	COLUMN ELECTRODE VOLTAGE PATTERN	VALUE CORRESPONDING TO THE EFFECTIVE VOLTAGE R1 R2 R3 R4 R5 R6 R7
1 1 1 1 1 1 1	-1 -1 -1 -3 -3 -5 -3 -1	1 1 1 1 1 3 1 1	4 4 4 4 4 4 4
1 1 1 1 1 1 -1	-3 1 1 -5 -1 -3 -1 -3	1 -1 -1 3 1 1 1 1	4 4 4 4 4 4 -4
1 1 1 1 1 -1 1	-3 1 -3 -1 -1 -3 -5 1	1 -1 1 1 1 1 3 -1	4 4 4 4 4 -4 4
1 1 1 1 1 -1 -1	-5 3 -1 -3 1 -1 -3 -1	3 -1 1 1 -1 1 1 1	4 4 4 4 4 -4 -4
1 1 1 1 -1 1 1	1 -3 1 -1 -1 -3 -5 -3	-1 1 -1 1 1 1 3 1	4 4 4 4 -4 4 4
1 1 1 1 -1 1 -1	-1 -1 3 -3 1 -1 -3 -5	1 1 -1 1 -1 1 1 3	4 4 4 4 -4 4 -4
1 1 1 1 -1 -1 1	-1 -1 -1 1 1 -1 -7 -1	1 1 1 -1 -1 1 3 1	4 4 4 4 -4 -4 4
1 1 1 1 -1 -1 -1	-3 1 1 -1 3 1 -5 -3	1 -1 -1 1 -1 -1 3 1	4 4 4 4 -4 -4 -4
1 1 1 -1 1 1 1	1 1 -3 -1 -5 -3 -1 -3	-1 -1 1 1 3 1 1 1	4 4 4 -4 4 4 4
1 1 1 -1 1 1 -1	-1 3 -1 -3 -3 -1 1 -5	1 -1 1 1 1 1 -1 3	4 4 4 -4 4 4 -4
1 1 1 -1 1 -1 1	-1 3 -5 1 -3 -1 -3 -1	1 -1 3 -1 1 1 1 1	4 4 4 -4 4 -4 4
1 1 1 -1 1 -1 -1	-3 5 -3 -1 -1 1 -1 -3	1 -3 1 1 -1 1 1 1	4 4 4 -4 4 -4 -4
1 1 1 -1 -1 1 1	3 -1 -1 1 -3 -1 -3 -5	-1 1 1 -1 1 1 1 3	4 4 4 -4 -4 4 4
1 1 1 -1 -1 1 -1	1 1 1 -1 -1 1 -1 -7	-1 -1 -1 1 1 1 1 3	4 4 4 -4 -4 4 -4
1 1 1 -1 -1 -1 1	1 1 -3 3 -1 1 -5 -3	-1 -1 1 -1 1 -1 3 1	4 4 4 -4 -4 -4 4
1 1 1 -1 -1 -1 -1	-1 3 -1 1 1 3 -3 -5	1 -1 1 -1 -1 -1 1 3	4 4 4 -4 -4 -4 -4
1 1 -1 1 1 1 1	1 1 1 -1 -1 -7 -1 1	-1 -1 -1 1 1 3 1 -1	4 4 -4 4 4 4 4
1 1 -1 1 1 1 -1	-1 3 3 -3 1 -5 1 -1	1 -1 -1 1 -1 3 -1 1	4 4 -4 4 4 4 -4
1 1 -1 1 1 -1 1	-1 3 -1 1 1 -5 -3 3	1 -1 1 -1 -1 3 1 -1	4 4 -4 4 4 -4 4
1 1 -1 1 1 -1 -1	-3 5 1 -1 3 -3 -1 1	1 -3 -1 1 -1 1 1 -1	4 4 -4 4 4 -4 -4
1 1 -1 1 -1 1 1	3 -1 3 1 1 -5 -3 -1	-1 1 -1 -1 -1 3 1 1	4 4 -4 4 -4 4 4
⋮	⋮	⋮	⋮
-1 -1 1 -1 1 -1 -1	-3 1 -3 -1 -1 5 3 1	1 -1 1 1 1 -3 -1 -1	-4 -4 4 -4 4 -4 -4
-1 -1 1 -1 -1 1 1	3 -5 -1 1 -3 3 1 -1	-1 3 1 -1 1 -1 -1 1	-4 -4 4 -4 -4 4 4
-1 -1 1 -1 -1 1 -1	1 -3 1 -1 -1 5 3 -3	-1 1 -1 1 1 -3 -1 1	-4 -4 4 -4 -4 4 -4
-1 -1 1 -1 -1 -1 1	1 -3 -3 3 -1 5 -1 1	-1 1 1 -1 1 -3 1 -1	-4 -4 4 -4 -4 -4 4
-1 -1 1 -1 -1 -1 -1	-1 -1 -1 1 1 7 1 -1	1 1 1 -1 -1 -3 -1 1	-4 -4 4 -4 -4 -4 -4
-1 -1 -1 1 1 1 1	1 -3 1 -1 -1 -3 3 5	-1 1 -1 1 1 1 -1 -3	-4 -4 -4 4 4 4 4
-1 -1 -1 1 1 1 -1	-1 -1 3 -3 1 -1 5 3	1 1 -1 1 -1 1 -3 -1	-4 -4 -4 4 4 4 -4
-1 -1 -1 1 1 -1 1	-1 -1 -1 1 1 -1 1 7	1 1 1 -1 -1 1 -1 -3	-4 -4 -4 4 4 -4 4
-1 -1 -1 1 1 -1 -1	-3 1 1 -1 3 1 3 5	1 -1 -1 1 -1 -1 -1 -3	-4 -4 -4 4 4 -4 -4
-1 -1 -1 1 -1 1 1	3 -5 3 1 1 -1 1 3	-1 3 -1 -1 -1 1 -1 -1	-4 -4 -4 4 -4 4 4
-1 -1 -1 1 -1 1 -1	1 -3 5 -1 3 1 3 1	-1 1 -3 1 -1 -1 -1 -1	-4 -4 -4 4 -4 4 -4
-1 -1 -1 1 -1 -1 1	1 -3 1 3 3 1 -1 5	-1 1 -1 -1 -1 -1 1 -3	-4 -4 -4 4 -4 -4 4
-1 -1 -1 1 -1 -1 -1	-1 -1 3 1 5 3 1 3	1 1 -1 -1 -3 -1 -1 -1	-4 -4 -4 4 -4 -4 -4
-1 -1 -1 -1 1 1 1	3 -1 -1 1 -3 -1 5 3	-1 1 1 -1 1 1 -3 -1	-4 -4 -4 -4 4 4 4
-1 -1 -1 -1 1 1 -1	1 1 1 -1 -1 1 7 1	-1 -1 -1 1 1 -1 -3 -1	-4 -4 -4 -4 4 4 -4
-1 -1 -1 -1 1 -1 1	1 1 -3 3 -1 1 3 5	-1 -1 1 -1 1 -1 -1 -3	-4 -4 -4 -4 4 -4 4
-1 -1 -1 -1 1 -1 -1	-1 3 -1 1 1 3 5 3	1 -1 1 1 -1 -1 -3 -1	-4 -4 -4 -4 4 -4 -4
-1 -1 -1 -1 -1 1 1	5 -3 1 3 -1 1 3 1	-3 1 -1 -1 1 -1 -1 -1	-4 -4 -4 -4 -4 4 4
-1 -1 -1 -1 -1 1 -1	3 -1 3 1 1 3 5 -1	-1 1 -1 -1 -1 -1 -3 1	-4 -4 -4 -4 -4 4 -4
-1 -1 -1 -1 -1 -1 1	3 -1 -1 5 1 3 1 3	-1 1 1 -3 -1 -1 -1 -1	-4 -4 -4 -4 -4 -4 4
-1 -1 -1 -1 -1 -1 -1	1 1 1 3 3 5 3 1	-1 -1 -1 -1 -1 -3 -1 -1	-4 -4 -4 -4 -4 -4 -4

FIG.12A

ROW ELECTRODE SELECTION PATTERN (ORTHOGONAL FUNCTION D)

DR1	DR2	DR3	DR4	DR5	DR6	DR7	DR8
1	-1	-1	1	-1	1	-1	1
1	1	-1	-1	1	-1	-1	-1
-1	1	1	1	1	-1	-1	-1
-1	-1	-1	-1	-1	1	-1	-1
-1	1	1	-1	1	-1	-1	1
-1	1	-1	-1	1	-1	1	1
1	-1	1	-1	1	-1	1	-1

FIG.12B FIG.12C FIG.12D FIG.12E

DISPLAY PATTERN R1	R2	R3	R4	R5	R6	R7	RESULT OF MLA OPERATION							COLUMN ELECTRODE VOLTAGE PATTERN							VALUE CORRESPONDING TO THE EFFECTIVE VOLTAGE R1	R2	R3	R4	R5	R6	R7
1	1	1	1	1	1	1	-1	-1	1	-3	-3	-5	-3	-1	1	1	1	1	1	3	1	1	4	4	4	4	4	4	4
1	1	1	1	1	1	-1	-3	1	-3	-1	-1	-3	-5	1	1	-1	1	1	1	1	3	-1	4	4	4	4	4	4	-4
1	1	1	1	1	-1	1	1	-3	1	-1	-1	-3	-5	-3	-1	1	1	1	1	3	1	4	4	4	4	4	-4	4	
1	1	1	1	1	-1	-1	-1	-1	-1	1	-1	-7	-1	1	1	1	-1	-1	1	3	1	4	4	4	4	4	-4	-4	
1	1	1	1	1	-1	1	1	1	-3	-1	-5	3	-1	-3	-1	-1	-1	1	1	3	1	1	4	4	4	4	-4	4	4
1	1	1	1	1	-1	1	-1	3	-5	1	-3	-1	-3	-1	1	-1	3	-1	1	11	1	1	4	4	4	4	-4	4	-4
1	1	1	1	1	-1	-1	1	3	-1	-1	1	-3	-1	-3	-5	1	1	1	-1	1	1	3	4	4	4	4	-4	-4	4
1	1	1	1	1	-1	-1	-1	1	1	-3	3	-1	1	-5	-3	-1	1	1	-1	1	-1	3	1	4	4	4	-4	-4	-4
1	1	1	-1	1	1	1	1	1	1	-1	1	-7	-1	1	-1	-1	1	1	1	3	1	-1	4	4	4	-4	4	4	4
1	1	1	-1	1	1	-1	-1	3	-1	1	1	5	-3	3	1	-1	1	1	1	3	1	-1	4	4	4	-4	4	4	-4
1	1	1	-1	1	-1	1	3	-1	3	1	1	-6	-3	-1	-1	1	-1	-1	-1	3	1	1	4	4	4	-4	4	-4	4
1	1	1	-1	1	-1	-1	1	1	1	3	3	-3	-6	1	1	-1	-1	-1	-1	1	3	-1	4	4	4	-4	4	-4	-4
1	1	1	-1	-1	1	1	3	3	-1	1	-3	-5	1	-1	-1	1	-1	1	3	1	1	4	4	4	-4	-4	4	4	
1	1	1	-1	-1	1	-1	1	5	3	3	-1	-3	-1	1	-1	-3	1	1	1	1	1	-1	4	4	4	-4	-4	4	-4
1	1	1	-1	-1	-1	1	6	1	1	3	-1	3	-1	-3	-3	-1	-1	1	1	1	1	1	4	4	4	-4	-4	-4	4
1	1	1	-1	-1	-1	-1	3	3	-1	5	1	-1	3	-1	-1	-1	1	1	-3	-1	1	1	4	4	4	-4	-4	-4	-4
1	1	-1	1	1	1	1	1	-3	-3	-5	-1	-3	-1	1	1	1	1	3	1	1	1	-1	4	4	-4	4	4	4	4
1	1	-1	1	1	1	-1	-1	-1	-5	-3	1	-1	-3	3	1	1	3	1	-1	1	1	-1	4	4	-4	4	4	4	-4
1	1	-1	1	1	-1	1	3	-5	1	-3	1	-1	-3	-1	-1	3	1	1	-1	1	1	1	4	4	-4	4	4	-4	4
1	1	-1	1	1	-1	-1	1	-3	-3	1	3	1	-5	1	-1	3	1	1	-1	1	-1	-1	4	4	-4	4	4	-4	-4
1	1	-1	1	-1	1	1	3	-1	-5	-3	-3	-1	1	-1	-1	1	3	1	1	-1	-1	1	4	4	-4	4	-4	4	4
			⋮							⋮							⋮							⋮				
-1	-1	1	-1	1	-1	-1	-3	1	5	3	3	1	-1	1	1	-1	-3	1	-1	-1	1	-1	-4	-4	4	-4	4	-4	-4
-1	-1	1	-1	-1	1	1	-1	3	3	1	-3	-1	5	-1	1	-1	-1	-1	1	1	-3	1	-4	-4	4	-4	-4	4	4
-1	-1	1	-1	-1	1	-1	3	5	1	3	-1	1	3	1	1	-3	-1	-1	1	-1	-1	-1	-4	-4	4	-4	-4	4	-4
-1	-1	1	-1	-1	-1	1	1	1	5	3	-1	1	3	-3	-1	-1	-3	-1	-1	1	-1	1	-4	-4	4	-4	-4	-4	4
-1	-1	1	-1	-1	-1	-1	-1	3	3	6	1	3	1	-1	1	-1	-1	-3	-1	-1	-1	1	-4	-4	4	-4	-4	-4	-4
-1	-1	-1	1	1	1	1	3	-3	1	-5	-1	1	3	1	1	1	-1	-1	3	1	1	-1	-4	-4	-4	4	4	4	4
-1	-1	-1	1	1	1	-1	-5	-1	-1	3	1	3	1	3	3	1	1	1	3	1	-1	1	-4	-4	-4	4	4	4	-4
-1	-1	-1	1	1	-1	1	-1	-6	3	-3	1	3	1	-1	1	3	-1	1	1	-1	1	-1	-4	-4	-4	4	4	-4	4
-1	-1	-1	1	1	-1	-1	-3	-3	1	-1	3	5	-1	1	1	1	1	1	1	-1	1	-1	-4	-4	-4	4	4	-4	-4
-1	-1	-1	1	-1	1	1	-1	-1	-1	-3	-3	3	5	-1	1	1	1	1	1	-1	-3	1	-4	-4	-4	4	-4	4	4
-1	-1	-1	1	-1	1	-1	-3	1	3	-1	-1	5	3	1	1	-1	1	1	-1	1	-3	-1	-4	-4	-4	4	-4	4	-4
-1	-1	-1	1	-1	-1	1	1	-3	1	-1	-1	5	3	-3	-1	1	1	1	-1	1	-3	-1	-4	-4	-4	4	-4	-4	4
-1	-1	-1	-1	1	1	1	1	-1	-1	-1	1	7	1	-1	1	1	1	-1	-1	1	-3	-1	-4	-4	-4	4	-4	-4	-4
-1	-1	-1	-1	1	1	-1	-3	1	1	3	-3	1	-1	6	3	1	1	-1	1	-1	1	-3	-1	-4	-4	-4	4	4	4
-1	-1	-1	-1	1	1	-1	-3	1	1	-1	3	1	3	6	1	1	-1	1	-1	-1	-1	-3	-1	-4	-4	-4	4	4	-4
-1	-1	-1	-1	1	-1	1	1	-3	5	-1	3	1	3	1	1	-1	1	3	1	-1	-1	-1	1	-4	-4	-4	4	-4	4
-1	-1	-1	-1	1	-1	-1	-1	-7	3	1	5	3	1	3	1	1	1	-1	1	-3	-1	-1	-1	-4	-4	-4	-4	4	-4	-4
-1	-1	-1	-1	-1	1	1	1	1	1	-1	-1	1	7	1	-1	-1	-1	-1	1	1	-1	-3	-1	-4	-4	-4	-4	-4	4	4
-1	-1	-1	-1	-1	1	-1	-1	3	-1	1	1	3	6	3	1	-1	-1	-1	-1	-1	-1	-3	-1	-4	-4	-4	-4	4	-4	-4
-1	-1	-1	-1	-1	-1	1	1	3	-1	3	1	1	3	5	-1	-1	1	-1	-1	-1	-1	-3	-1	-4	-4	-4	-4	-4	-4	4
-1	-1	-1	-1	-1	-1	-1	1	1	1	3	3	5	3	1	-1	-1	-1	-1	-1	-1	-3	-1	1	-4	-4	-4	-4	-4	-4	-4

FIG. 13
PRIOR ART

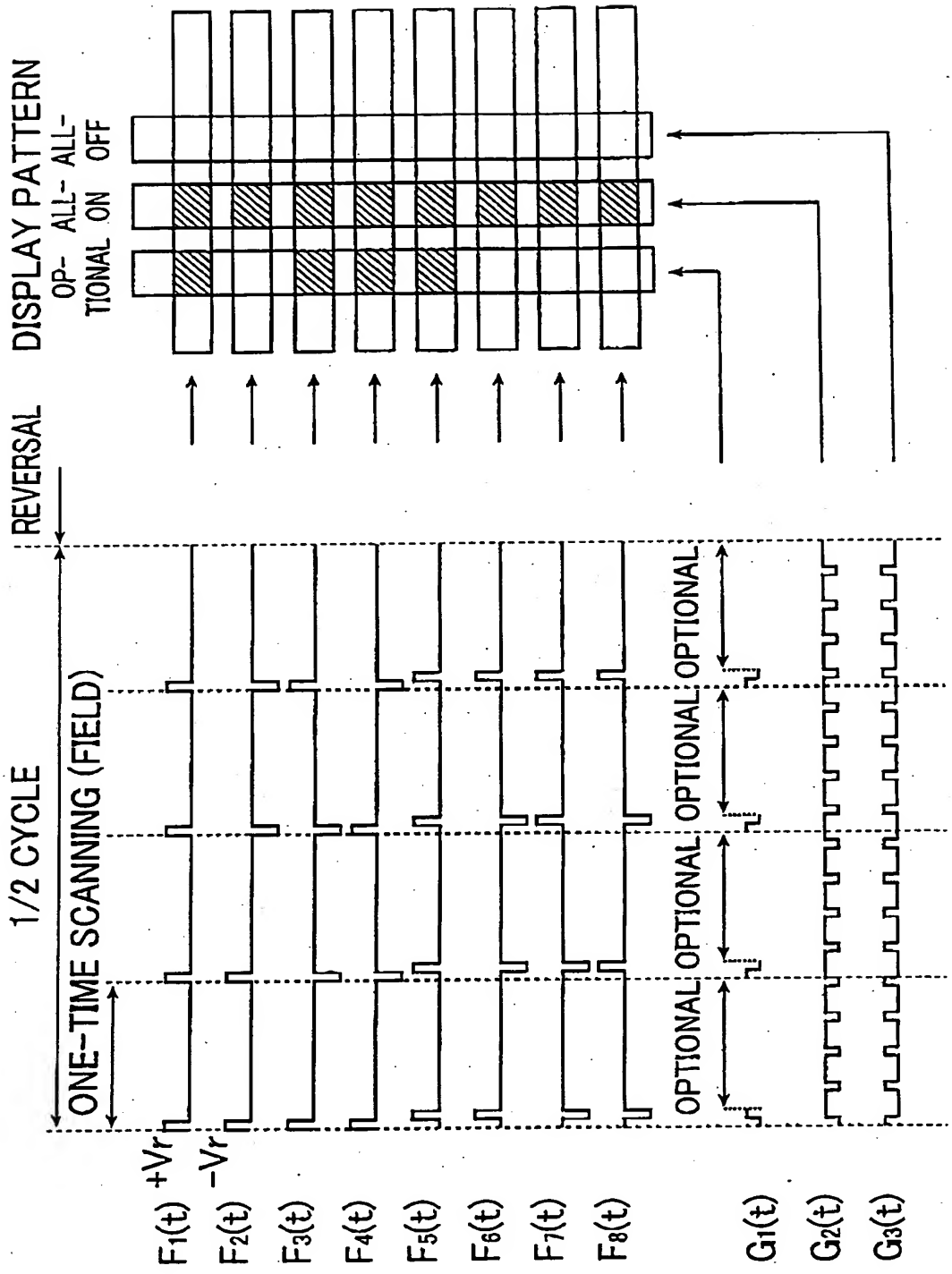

FIG. 14
PRIOR ART